



**UNITED STATES NAVAL
MEDICAL RESEARCH UNIT NO. TWO
COMMAND HISTORICAL REPORT
OPNAV Report 5750. 1**

1986

COMMAND HISTORY OF

NAVAL MEDICAL RESEARCH UNIT NO. 2

MANILA, REPUBLIC OF THE PHILIPPINES



CAPTAIN LARRY W. LAUGHLIN, MC, USN

COMMANDING OFFICER

Commanding Officers and Dates of Commands

	<u>From</u>	<u>To</u>
Captain Robert A. PHILLIPS	13 Sep 1955	30 Oct 1965
Captain Raymond H. WATTEN	30 Oct 1965	29 Jul 1974
Captain P.F. Dirk VAN PEENEN	29 Jul 1974	1 Oct 1976
Captain Kurt SORENSEN	1 Oct 1976	1 Jul 1980
Captain Willian H. SCHROEDER	1 Jul 1980	20 Jan 1984
Captain Vernon D. SCHINSKI	20 Jan 1984	5 Jul 1985
Captain Larry W. LAUGHLIN	5 Jul 1985	

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PART I
COMMAND MISSION
AND
ORGANIZATION

HISTORY OF THE
U.S. NAVAL MEDICAL RESEARCH UNIT NO. 2
THE REPUBLIC OF THE PHILIPPINES

The U.S. Naval Medical Research Unit No. 2 (NAMRU-2) had its beginnings under the Rockefeller Institute on Guam during World War II (1942-1946). Its primary function was, as it remains today, to study infectious diseases of potential military significance in Asia. In 1955, the Unit was reestablished in Taipei, Taiwan, Republic of China, where it functioned with distinction for twenty-nine years. As a leading biomedical laboratory in Asia, NAMRU-2 was frequently requested to provide assistance in other Asian countries for training and for expertise in epidemiology, treatment and control of various infectious disease problems. These collaborative efforts led to the establishment of a detachment in Vietnam (1965), a detachment in Jakarta, Indonesia (1970) and finally to the transfer of the parent laboratory to Manila, Republic of the Philippines (1979).

NAMRU-2's beginnings in Jakarta were involved with a study of arboviral diseases in 1963. In 1968, an outbreak of Bubonic plague in Central Java prompted the Indonesian government to request assistance. NAMRU-2 joined a U.S. Public Health Service team and together they brought the outbreak under control and established eradication and surveillance programs. Following the success of these programs, the Indonesian health authorities requested that NAMRU-2 establish a permanent research laboratory in Indonesia. On 16 January 1970, negotiations were completed and a permanent detachment (NAMRU-2 DET) was established in Jakarta. In the intervening years, research efforts had included a study of leptospirosis in South Sumatra, serological surveys and hemoglobin determinations in Bali and Makassar, and zoonosis, filariasis and biomedical surveys in Sulawesi.

During the late 70's a new primate filarid parasite (Wuchereria kalimantani) was discovered, a species very similar to the human parasite W. bancrofti. This observation opened the doors to the long sought after animal model for bancroftian filariasis. During the next few years this animal model system was fully developed and stands as one of the major accomplishments of the laboratory.

The 80's were ushered in with the signing of a new five-year working agreement with NIHRD which identified manpower development, institutional building and research and surveillance of infectious diseases as NAMRU goals. The tone of research began to change from broad surveillance to focusing on specific questions about identified disease entities. Typhoid fever was noted to have a specific subset of patients with cerebral manifestations and a very high fatality rate. A prototype double blind randomized clinical trial lead to the new discovery that high dose dexamethasone dramatically reduced mortality in severe typhoid fever. Large steps were taken in the discovery of the pathogenesis of typhoid fever which pointed to toxic agents produced by the macrophage immune cell.

Malaria became a prominent disease research area of the 80's. Drug resistance mapping was completed, in vitro continuous malaria culturing was established, cerebral malaria was clinically defined and major efforts were made to discover the mechanism of natural immunity to malaria. It was noted that the mechanism of malaria immunity in central Indonesia and northern Africa were different, an observation that may have great impact on the current development of a malaria vaccine. Simultaneously studies in tropical splenomegaly syndrome (chronic malaria) revealed that this subset of patients produced a serum factor that is toxic to suppressor T lymphocytes which lead to an immunological imbalance resulting in massive splenomegaly.

Filariasis research took an immunological slant with the observations that patients with persistent disease and long term complications also expressed a parasite induced immunological defect. These data appear to be confirmed by a similar defect found in the primate model system. This represents a significant step in elucidation of the cause and effects of chronic filariasis.

At the request of WHO, NAMRU tested a new citrate based oral rehydration solution for patients with acute secretory diarrhea. This clinical trial proved that the new less expensive, more stable ORS was better therapy. WHO has changed their world-wide recommendations for the treatment of diarrhea based on this study and NAVMEDCOM will likely follow suit. This study also produced a new rapid diagnostic assay for cholera which can be easily incorporated into field deployable forces medical armamentarium.

NAMRU-2's relationship with the Philippines is one of long standing. Early investigations involved outbreaks of infectious diseases at U.S. bases such as problems with amebiasis at Cubi Point, Naval Air Station where work was carried out among naval and indigenous populations. An epidemic of cholera in Manila during 1961 brought NAMRU-2 and the Philippine Department of Health together for what has proven to be a long standing and mutually beneficial relationship. NAMRU-2 staff working with colleagues at San Lazaro Hospital modified and improved methods for treating cholera and developed oral rehydration therapy which has become a standard treatment for cholera and other diarrheal diseases and remains a major World Health Organization program to this day.

In 1966, NAMRU-2 returned to Manila to assist with an epidemic of dengue hemorrhagic fever. Then in early 1967, a new "mystery disease" was reported causing severe illness and death in the northwestern portion of Luzon. Teams of NAMRU-2 epidemiologists and parasitologists worked with Department of Health counterparts to discover that the disease was caused by a nematode parasite, Capillaria philippinensis. The life history of the parasite and the route of infection through eating small uncooked fish were discovered. Treatment of capillariasis was established and research efforts led to education and surveillance programs for control of the disease.

Other studies in the Philippines have included work on leptospirosis, scrub typhus, abnormal hemoglobins, amebiasis, diarrheal diseases, malaria, filariasis and schistosomiasis. A summary of biomedical surveys covering tens of thousands of subjects from hundreds of sites on all the major islands of the Philippines has just been published by Dr. John Cross of NAMRU-2 and Dr. Virginia Basaca-Sevilla of the Bureau of Research and Laboratories, our main basic science collaborator. This volume summarizes much of the epidemiology of diseases of military importance in the Philippines and signals a change in emphasis from epidemiology to pathophysiology, rapid diagnosis, treatment and control.

It is no wonder when politics called for NAMRU-2 to leave Taiwan that the command automatically turned to their frequent collaborators in the Philippines to identify a new location. This officially occurred on 15 April 1979. Laboratories and other facilities are established at the Bureau of Research & Laboratories and San Lazaro Hospital, the main infectious disease hospital, both located on the Department of Health compound in Santa Cruz, Manila. In addition to permanently establishing our relationships with the Philippine Department of Health, this move to the Philippines has enabled NAMRU-2 to establish close collaborative ties to Subic Naval Station and Clark Air Force Base. NAMRU-2 researchers are also able to take advantage of collaborative efforts with the Peace Corps, the Embassy Health Clinic, the Philippine Army Medical Department, and several Philippine universities and hospitals interested in infectious disease research.

COMMAND MISSION, FUNCTIONS, AND TASK

The purpose of the U.S. Naval Medical Research Unit No. 2 is to promulgate the mission, functions, and tasks of the Naval Medical Research Unit No. 2, Manila under the mission established by OPNAVNOTE 5450 Ser 09BS26/144097 of 27 Feb 29.

The mission of the Navy Medical Research Unit No. 2, as assigned by the Navy, are to:

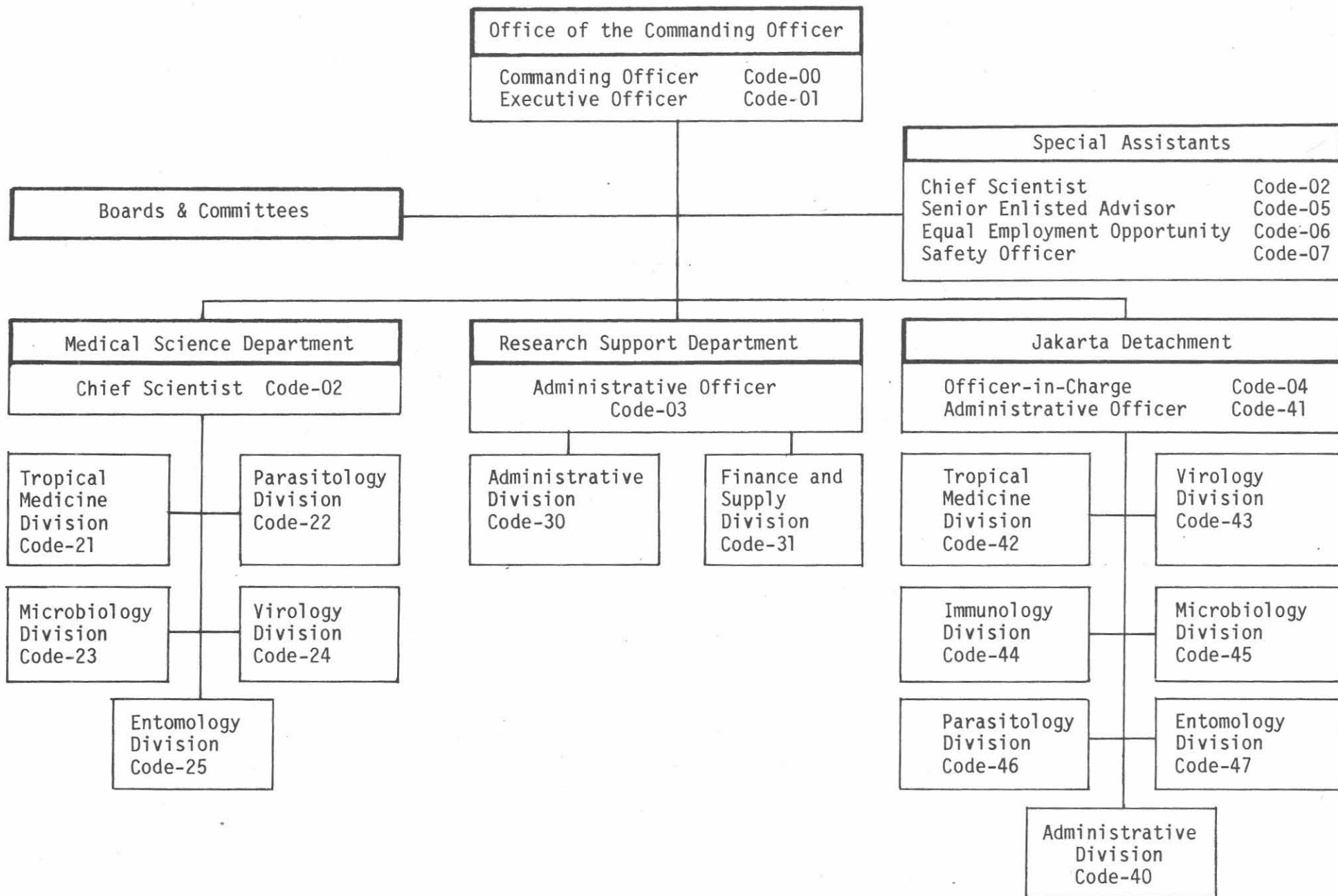
Conduct research, development, test, and evaluation in infectious diseases to enhance the health, safety, and readiness of Navy and Marine Corps personnel in the effective performance of peacetime and contingency missions in Southeast Asia, and to perform such other functions or tasks as may be directed.

Functions of NAMRU-2, as directed by the Commanding Officer, Naval Medical Research and Development Command, Bethesda, MD and under the cognizance of the Commander, Naval Medical Command, are to:

- a. Conduct research programs in infectious disease which directly relate to military medical requirements and operational needs.
- b. Conduct interactive biomedical research with Navy and other Department of Defense medical research and development laboratories, specifically in the areas of preventive medicine and epidemiology, and tropical medicine and infectious diseases.
- c. Develop and maintain the capability to provide infectious disease risk assessment information and conduct research and development to improve the prevention, diagnosis, and treatment of infectious diseases in the Fleet Marine Corps.
- d. Maintain a technology base and scientific and technical expertise in infectious disease and tropical medicine to provide advisory assistance when requested.
- e. Provide or undertake such other appropriate functions as may be authorized or directed.

NAMRU-2 Task:

Direct, manage, and support the U.S. Naval Medical Research Unit No. 2 Detachment, Jakarta, Indonesia.



DATE: 14-5-87	APPROVED: <i>L.W. Laughlin</i> L.W. LAUGHLIN CAPT MC USN	COMMAND RESPONSIBILITY: NAVMEDRSCHDEVCOM	AREA COORDINATOR: COMUSNAVPHIL	U.S. NAVAL MEDICAL RESEARCH UNIT NO. 2 MANILA, REPUBLIC OF THE PHILIPPINES
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COMMAND RELATIONSHIPS

External Command Relationships

Command:	Chief of Naval Operations
	Commander, Naval Medical Command
	Commanding Officer, Naval Medical Research and Development Command
Support:	Naval Medical Research and Development Command
Hosts:	Department of Health Republic of the Philippines
	Ministry of Health Indonesia
Area Medical Coordinator	NMC Pacific Region Barber's Point HI
Area Coordinator: (Manila)	Commander, U.S. Naval Forces Philippines
Area Coordinator: (Jakarta)	Defense Attache United States Embassy, Jakarta

MILITARY STAFFING
AS OF 31 DEC 1986

OFFICERS

	<u>Manila</u>		<u>Jakarta</u>		
	<u>MC</u>	<u>MSC</u>	<u>MC</u>	<u>MSC</u>	<u>Army</u>
Captain - 06	1				
Commander - 05			1	1	
LT Commander - 04	2	1			1
Lieutenant - 03	—	<u>4</u>	—	<u>4</u>	—
TOTAL	3	5	1	5	1

Manila = 8
Jakarta = 7

ENLISTED PERSONNEL (Hospital Corps)

	<u>Manila</u>	<u>Jakarta</u>
E8	1	
E7	1	1*
E6	4	1
E5	<u>2</u>	<u>0</u>
TOTAL	8	2
GRAND TOTAL	<u>16</u>	<u>9</u>

*Vacant (Member ordered in)

CIVILIAN STAFFING
AS OF 31 DEC 1986

	<u>Manila</u>	<u>Jakarta</u>
<u>U.S. Civilian</u>		
GM 14	1	
High grades	(1) vacancy	-
GS 12	<u>1</u>	<u>-</u>
TOTAL	3	
 <u>Foreign Service Nationals</u>		
Grade		Contract*
12	3	-
11	-	2
10	-	1
9	1	3
8	2	4
7	9	5
6	20	5
5	4	6
4	2	8
3	4	19
2	<u>-</u>	<u>2</u>
TOTAL	44	55
GRAND TOTAL	<u>47</u>	<u>55</u>

*Contract personnel due to convert to FSN February 1987
(Conversion effective 18 January 1987)

PART II

DIVISIONAL SUMMARIES

MANILA SCIENTIFIC DEPARTMENT

ENTOMOLOGY DIVISION - Manila

Mission: To investigate insect transmitted diseases of military importance in Asia; to study adult and larval behavior and habitats of vectors; to maintain a mosquito insectary for experimental use; to identify arthropods of medical importance; to test and evaluate equipment of importance to DOD vector control programs.

Current Research Interests:

- Determine presence of Japanese encephalitis vectors at a site in Central Luzon; study seasonal population changes in relation to weather and rice-growing practices; study biting preference, flight activity, resting habits, and ovipositional behavior.
- Study the effects of weather on the population dynamics of dengue vectors in Manila; correlate vector activity to reported dengue cases.
- Investigate ovipositional preference, biting activity, and dispersal of Aedes albopictus.
- Determine malaria vectors in and around the Subic Bay Naval Reservation; study seasonal population changes in relation to weather; study larval and adult bionomics.
- Study malaria vectors at several sites in Palawan; determine seasonal population trends, biting and resting behavior, and larval sites.
- Investigate potential morphological and physiological differences of the primary malaria vector, Anopheles flavirostris, from different parts of the Philippines.

Accomplishments:

- Biweekly field trips to a site endemic for JE have shown clear relationships of population changes due to rainfall and irrigation practices.
- Large numbers of each potential JE vector have been collected and preserved for virus isolation assay.
- Flight activity and larval habitats are being characterized for each potential JE vector to enable control activities to be more efficient and economical.

- Breeding preferences of both Aedes aegypti and Ae. albopictus, collected from several sites in Manila, have been characterized and their populations monitored.
- Long term malaria vector studies have been underway at 7 sites near Subic Bay and are showing population trends closely related to rainfall.
- Malaria risk potential in liberty areas around Subic Bay was evaluated and shown to be minimal.
- The behavior of An. flavirostris is now better understood with regard to its biting, and oviposition habits. This information is being used to modify control and prevention practices.

Presentations by LT Schultz in 1986:

- "Vectors of malaria and arboviral diseases in the Philippines", Tri-Service Pest Management Workshop, Jacksonville, Florida, 22 February 1986.
- "Biology of Japanese encephalitis vectors in Central Luzon, Republic of the Philippines", American Mosquito Control Association, New Orleans, Los Angeles, 22 April 1986.
- "Biology of Japanese encephalitis in the Philippines", Southeast Asian Regional Laboratory Meeting, Kuala Lumpur, Malaysia, 14 May 1986.
- "Study of Japanese encephalitis vectors in Central Luzon, Republic of the Philippines" American Society of Tropical Medicine and Hygiene, Denver, Colorado, 9 December 1986.

MICROBIOLOGY DIVISION - Manila

Mission: To carry out research and development on bacterial and other selected diseases of military importance in Southeast Asia; to obtain data relating to prevalence of bacterial pathogens, epidemiology, drug resistance, treatment and prevention of microbial infections; to develop up-to-date technology for the rapid diagnosis of microbial infections; to identify and characterize future test sites for vaccines currently being developed by agencies of the Department of Defense; and to maintain a basic clinical microbiology laboratory to support the missions of the other laboratories within the command.

Current Research interests:

- Development of techniques to study the gut immune response to invasion by selected enteric pathogens.
- Determination of the etiologic agents of diarrheal disease endemic to the Philippines.
- Determination of the etiologic agents of travelers diarrhea among selected groups transiting the Philippines.
- Application of in vitro Cryptosporidium system to study immunobiology of the organism utilizing electron microscopy techniques.

Accomplishments:

- Initiated gut immunity study involving diarrhea patients at San Lazaro Hospital, Manila.
- Initiated collaborative program with Hospital of the Infant Jesus, Sampaloc, Manila to refer a number of their diarrhea patients to gut immunity project.
- Conducted preliminary diarrhea/gut immunity survey work at Napsan, Palawan.
- Continued upgrading of clinical microbiology laboratory.

Presentations by members of the Microbiology Division in 1986:

LT M. A. Laxer:

- "Cryptosporidiosis", University of the Philippines, College of Medicine, Department of Pediatrics, Philippine General Hospital, 1 August 1986.

- "Cryptosporidiosis in the Philippines - a review and a study currently in progress", 9th Annual Convention, Philippine Society for Microbiology and Infectious Diseases, 22 November 1986.

LCDR H. Adkins:

- "Laboratory diagnosis of chlamydial infections, Philippine experience", Philippine Medical Association - United District Assembly for Manila, 25 January 1986.

Dr. A. Pena (Research Fellow):

- "Clinical diagnosis of chlamydial infections, Philippine experience", Philippine Medical Association - United District Assembly for Manila, 25 January 1986.

PARASITOLOGY DIVISION - Manila

Mission: To conduct research and development for the study of epidemiology, immunology and chemotherapy of parasitic diseases of military importance in the Philippines; to conduct research and development of rapid diagnostic tests; to maintain state-of-the-art diagnostic support capabilities for parasitic diseases; and to identify and study areas endemic for parasitic diseases of particular interest to the military.

The principal area of interest currently is malariology including diagnostic test development, prospective field studies for development of a potential vaccine test site, and longitudinal based laboratory immunology.

Current Research Interests:

- Development of an immunodiagnostic test for malaria based on the use of monoclonal antibodies in an enzyme linked immunosorbent assay.
- The evaluation of natural immunity to P. falciparum and P. vivax malaria through longitudinal studies conducted at a field site on the island of Palawan. This work includes, through cooperation with the Entomology Division, the collection of demographic data, vector studies, and epidemiology necessary to develop this site as a possible vaccine trial site in the future.
- Adaptation of Philippine strains of P. falciparum to continuous culture for in vitro studies of antibody reactivity in indigenous population, characterization of malaria antigens, and drug studies.
- Assay drug sensitivity of P. falciparum to antimalarials in vitro.
- Perform in vitro serum inhibition assays using immune sera from endemic areas to determine their ability to inhibit growth of various strains of P. falciparum.
- Conduct routine surveys of intestinal parasite prevalence for monitoring purposes.

Accomplishments:

- Have adapted numerous strains of P. falciparum from various areas of the Philippines, including a major field site on Palawan, to continuous culture. Immunological studies are being performed using these strains of parasites.

- Over 2,500 sera have been collected from volunteers at a field site on the west coast of Palawan. This includes the collection of blood on three separate occasions at three months intervals. A field laboratory has been constructed with the help of NAMRU-2 Research Support Department and Finance Division, obtaining a facility for use in longitudinal studies for a period of ten (10) years.
- In October 1986 a meeting was held between the Head of Parasitology Division and Finance Officer of NAMRU-2 and the barangay captain and council of Napsan, Puerto Princesa, Palawan, Republic of the Philippines regarding a plan to construct a field laboratory facility.
- On October 23, 1986, an agreement regarding the construction of NAMRU-2 field laboratory facility was established between NAMRU-2 and the Republic of the Philippines represented by the barangay captain, barangay council, teachers in both primary and secondary schools, barangay Parish Priest, and the people of Napsan. The facility measures about 24 feet x 60 feet which includes a laboratory work space, a kitchen room, generator room, supply room, a bathroom and a restroom. It is a one story building that can accommodate approximately sixteen (16) personnel at any given time. This facility will be utilized by NAMRU-2 personnel particularly the Parasitology and Entomology divisions for conducting malaria field research projects, collection of mosquitoes and any project relative to NAMRU-2 research. It was agreed that the facility will be used for a period of ten (10) years after which it will be turned over to the barangay for their use. Construction of the facility began on November 29, 1986. The construction was completed in January 1987 and is providing the necessary facilities and space for storage and work in the area.
- Partially completed an immunological study of antibody reactivity to the vaccine candidate circumsporozoite protein (R32tet32) of the P. falciparum sporozoite. Demonstrated that 58% of persons living in the study site on Palawan had antibodies to this peptide, that there is an age dependence, and that the antibody may be short lived.
- In vitro drug monitoring assays have identified a reduction in sensitivity to amodiaquine with a corresponding slight increase in sensitivity to chloroquine.
- Serum inhibition assays using Philippine strains of P. falciparum have been used to compare immunity in different geographic areas within the Philippines.

Presentations by members of the Parasitology Division in 1986:

LCDR R. B. Oberst:

- "Monoclonal antibodies and malaria", Philippine Society for Microbiology and Infectious Diseases - Annual Meeting 1986.
- "Malaria diagnostic test development", Philippine Society for Parasitology - Annual Meeting 1986.
- "Preliminary report on malaria in a longitudinal study conducted on the island of Palawan", Philippine Society for Microbiology and Infectious Diseases - Annual Meeting 1986.
- "A dot enzyme-linked immunosorbent assay using monoclonal antibodies for the detection of Plasmodium falciparum", American Society for Tropical Medicine and Hygiene - Annual Meeting 1986, Denver.

Dr. N. E. Sy:

- "Viral hepatitis", 5th Post Graduate Course, Far Eastern University - Nicanor Reyes Medical Foundation, Department of Child Health, Manila, April 1986.
- "Update on hepatitis", United Laboratories - Philippine Medical Association District Assembly, Tuguegarao, Cagayan, November 1986.

Mrs. S.F. Cruzada:

- "Role of certain arthropods in the transmission of rat tapeworm to man" - 2nd Asean Conference on Medical Laboratory Technology, Manila, November 1986.

Workshops/Meetings attended by members of the Parasitology Division in 1986:

- Annual Meeting of the American Society for Microbiology, Attendee: LCDR R. B. Oberst
- Seminar on Liquid Scintillation (Beckman), Manila, 5 August 1986.
- Attendees: Dr. N.E. Sy and Mrs. P.S. Macalagay
- Update on Enzyme Immunoassay (Dynatech), Manila, 30 September 1986.
- Attendees: Dr. N.E. Sy and Ms. V.D. Fallarme
- Seminar on DNA Technology, University of Santo Tomas Graduate School, Manila, December 1986.
- Attendee: Ms. P.S. Macalagay

- Seminar on Pest Control Management, University of Santo Tomas Graduate School, Manila, December 1986.
- Attendee: Ms. S.F. Cruzada
- Symposium on Common Infectious Diseases in the Philippines, 79th Annual Convention, Philippine Medical Association, Manila, 12 April 1986.
Attendee: Dr. N.E. Sy (Rapporteur)
- Seminar on Carcinogen, University of Santo Tomas Graduate School, Manila, December 1986.
Attendee: Ms. V.D. Fallarme

TROPICAL MEDICINE DIVISION - Manila

Mission: To carry out research and development on tropical and infectious disease problems of military importance in the Philippines; to investigate in detail the clinical signs and symptoms, pathophysiology, diagnosis and treatment of tropical diseases; to provide biochemical, hematological and parasitological support for all other divisions through the clinical laboratory.

Current Research Interests:

Malaria

- Comparison of the efficacy of various chemoprophylactic agents for the prevention of falciparum malaria (field based study - Pundakit, Zambales).
- Intensive investigation of Fansidar resistance in the Philippines.

Snakebite

- Detailed investigations of Philippine cobra venom and antivenom (collaboration with USAMRID - Fort Detrick).

Schistosomiasis

- Investigations on the causes of decompensated liver disease in patients with severe Schistosoma japonicum infection.
- Evaluation of detection of circulating antigen as a test of cure.

Leptospirosis

- Animal studies on the pathophysiology of bleeding in leptospirosis (collaboration with USAMRU - Malaysia).

Others

- Investigations on the development of mucosal immunity in invasive amebiasis.
- Surveys to determine the importance of melioidosis in the Philippines.

Accomplishments:

Malaria

- Demonstrated falciparum malaria resistant to amodiaquine in a group of villagers in a malaria-endemic area.

- Found the first cases of Fansidar[®]-resistant falciparum malaria in the Philippines.
- Completed the first phase of the Pundakit field study evaluating different malaria chemoprophylactic agents.

Snakebite

- Demonstrated that Philippine cobra antivenom does not effectively reverse the neurotoxicity caused by the bites of this snake.

Schistosomiasis

- Demonstrated that praziquantel achieves higher blood levels and causes more side effects when given to patients with liver disease.

Leptospirosis

- Demonstrated that intravenous penicillin is effective in both late and severe cases of leptospirosis.
- Found that over 40% of Philippine rice farmers surveyed have antibodies to leptospirosis.

Others

- Continued upgrading the clinical laboratory.
- Set up new collaborative studies with N.I.H. (Schistosomiasis); the Wellcome Trust - Mahidol University Unit (Schistosomiasis, Snakebite, Melioidosis); USAMRIID - Fort Detrick (Snakebite).

Presentations by LCDR G. Watt:

- "Cerebral schistosomiasis", Manila Central University, 17-18 January 1986.
- "Snakebite", Philippine General Hospital, 20 February 1986.
- "Snakebite management in the Philippines", Paulino Garcia Memorial Hospital, Cabanatuan City, 12 March 1986.
- "Poisonous snakes", IRRI, Los Banos, Laguna, 23 May 1986.
- "Leptospirosis", Philippine General Hospital, 11 June 1986.
- "Schistosomiasis", San Lazaro Hospital, 3 July 1986.
- "Malaria", Philippine General Hospital, 7 July 1986.

- "Snakebite", Philippine General Hospital, 11 July 1986.
- "Cerebral schistosomiasis", International Congress of Parasitology (ICOPA), Brisbane, Australia, 26 August 1986.
- "The diagnosis of tuberculous meningitis", PGH-Neurology, 24 September 1986.
- "Snakebite", RITM, 27 October 1986.
- "The diagnosis of tuberculous meningitis". PGH-Infection Department, 6 November 1986,
- "Penicillin treatment of severe leptospirosis", American Congress of Leptospirosis, Chicago, 18 November 1986.
- "Praziquantel pharmacokinetics in Schistosoma japonicum", American Society of Tropical Medicine and Hygiene, Denver, 8 December 1986.

VIROLOGY DIVISION - Manila

Mission: To conduct research and development on viral diseases of military importance in the Philippines in the areas of epidemiology, clinical presentation and laboratory diagnosis.

Current Research Interests:

- To characterize the spectrum, duration and severity of neurological sequelae associated with Japanese encephalitis.
- To document the epidemic spread of chikungunya fever in the Philippines and to characterize the spectrum of clinical disease.
- To determine the kinetics of IgM antibody production in cases of persistent arthralgia following acute chikungunya fever.
- To improve the IgM antibody capture ELISA as a rapid diagnostic test for dengue virus infections.
- To investigate the epidemiology and clinical expression of HIV infection in a high risk group (hospitality girls) in the Philippines.

Accomplishments:

- Determined that the IgM antibody capture ELISA procedure for the diagnosis of dengue virus infection is more rapid, sensitive and specific than the hemagglutination-inhibition test.
- Documented the occurrence of epidemic chikungunya fever in the Philippines for the first time since 1967-1968. Clinical disease was described in American Peace Corps Volunteers as well as in Filipinos. Rapid diagnosis of infection was achieved by use of an IgM antibody capture ELISA procedure.
- Completed a detailed study on the acute neurological manifestations associated with Japanese Encephalitis virus infection providing a complete clinical description of this very serious disease for the first time in the Philippines.
- Continued the prospective serological monitoring of all U.S. Peace Corps Volunteers stationed in the Philippines to determine their exposure to selected infectious diseases.
- Completed the third bleeding of approximately 3,000 school children in Manila in a long-term prospective study to determine the annual incidence of dengue infections.

- Surveyed over 20,000 hospitality girls working in different geographic locations throughout the Philippines for antibody to the Human Immunodeficiency Virus (HIV) and also determined the one-year incidence rate of HIV infection in a group of hospitality girls working in towns adjacent to Clark Air Base.
- Provided diagnostic support to the local medical community, the U.S. Military Forces, the U.S. State Department and U.S. Peace Corps.

Presentations by members of the Virology Division in 1986:

Dr. C. G. Hayes:

- "Diagnosis of Japanese Encephalitis in the Philippines", Philippine Medical Association - United District Assembly for Manila, 25 January 1986.
- "Dengue studies in the Philippines, 1983-84", 4th Australian Arbovirus Symposium, 6-9 May 1986.
- "Prevalence of HTLV-III/LAV antibody in hospitality girls in the Philippines, 1985-86", 4th Annual Southeast Asian-U.S. Military Biomedical Research Laboratory Conference, 12-16 May 1986.
- "Acquired Immune Deficiency Syndrome - The Philippine experience", The Philippine Society of Pathologists, 27 September 1986.
- "Japanese Encephalitis - The Philippine experience", Philippine College of Physicians Mid-year Convention, 29 November 1986.
- "Dengue Fever - The Philippine experience", Philippine College of Physicians Mid-year Convention, 29 November 1986.
- "Comparison of the HI test and IgM capture ELISA for the early diagnosis of dengue infections in the Philippines", Joint Meeting of the American Society of Tropical Medicine and Hygiene and the American Society of Parasitologists, 7-11 December 1986.

Dr. A.M. San Luis (Research Fellow)

- "Clinical diagnosis of Japanese encephalitis, Philippine experience", Philippine Medical Association - United District Assembly for Manila, 25 January 1986.
- "Japanese Encephalitis", 79th Philippine Medical Association Annual Convention, 10-12 April 1986.
- "Japanese Encephalitis infection in the Philippines", Philippine Neurological Association 8th Annual Scientific Convention, 20-22 November 1986.

LCDR T.F. O'Rourke:

- "Japanese encephalitis in the Philippines", Philippine Medical Association - United District Assembly for Northwestern Luzon, 18 January 1986.
- "Epidemiology of Japanese encephalitis in the Philippines. 4th Australian Arbovirus Symposium, 6-9 May 1986.

Dr. C. Manaloto:

- "Report on dengue in the Philippines", First International Conference on the Impact of Viral Diseases in the Development of Asian Countries, Thailand, 7-13 December 1986.

JAKARTA SCIENTIFIC DEPARTMENT

CLINICAL INVESTIGATION AND EPIDEMIOLOGY DIVISION - Jakarta

Mission: To carry out research and development on clinical diseases of military importance in Indonesia; to obtain information on the epidemiology, rapid diagnosis, pathophysiology, treatment and control of clinical diseases; to maintain up-to-date diagnostic support capabilities; and to identify and characterize test sites for developing chemotherapy and immunoprophylaxis.

Current Research Interests:

Dengue

- Characterize the clinical presentation and viral etiology of dengue disease in Indonesia.
- Determine risk factors for mortality in severe dengue hemorrhagic fever (DHF).
- Determine the base-line dengue antibody titer in healthy school children from a random sample of schools in all sections of metropolitan Jakarta.
- Determine pathophysiology of severe DHF and dengue shock syndrome.
- Quantitate the physiologic effects of the current WHO treatment protocol.
- Prepare for a therapeutic trial in severe dengue disease.

Enteric Diseases

Typhoid

- Determine the relative efficacy of two formulations (liquid and capsule) of a Ty21a oral typhoid vaccine in a WHO sponsored trial in Plaju, Sumatera, Indonesia.

Cholera

- Test the efficacy of glycine supplemented ORS in reducing secretory diarrhea in a WHO sponsored trial at the Infectious Diseases Hospital, Jakarta.

Tropical Diseases

- Determine the potential association of human leucocyte antigen (HLA) type in dengue hemorrhagic fever.

Accomplishments:

Dengue

- Preliminary analysis of the data from the year long intensive study of 387 patients admitted with the clinical diagnosis of DHF revealed that there were 28 (7.2%) fatalities, 9 (2.3%) lost to follow-up and 350 (90.5%) evaluable patients. Of these 350 surviving patients, 26 (7.4%) were non-dengue disease, 35 (10.0%) were serologically unclassified and 289 (82.6%) were diagnosed as having Group B arbovirus infection. Of these 289, there were 49 (17.0%) primary, 172 (59.5%) secondary and 68 (23.5%) presumptive recent secondary infections.

In the group of patients who died, 4 of 28 were excluded as non-dengue disease. In the remaining patients, the M:F ratio was 1:5, as compared to 1:1.2 in survivors. A case-control analysis was conducted between these 24 fatal cases and controls matched for age, sex and the presence of shock (DSS). This analysis revealed statistically significant associations between mortality and: days ill prior to admission, decreased level of consciousness on admission; requirement for intensive care unit treatment; signs of gastrointestinal bleeding; requirement for blood product therapy; low hematocrit on admission and gram negative bacteremia.

- A reversal in the pattern of dengue virus isolations was also noted, with dengue type 2 virus (DEN-2) in excess of DEN-3. The viruses isolated were 4 DEN-1 (9.8%), 19 DEN-2 (46.3%), 16 DEN-3 (39%) and 2 DEN-4 (4.9%).
- A serosurvey of over 5,000 healthy Jakarta schoolchildren for the prevalence of serum dengue antibodies was completed. Preliminary analysis of a random sample of approximately 500 of these specimens indicated that in our laboratory a titer of 640 was more than 3 standard deviations from the norm for these healthy children. This indicates that this level of antibody titer is highly suggestive of a recent prior or current arbovirus infection. Determination of the titer in the remaining children is in progress.

Work continued on development of the Clinical Research Center - Intensive Care Unit Program. Construction of the physical plant was begun, and administrative and logistical preparations continued. This unit is expected to open in early 1987.

The assistance of Project HOPE and the Rockefeller Foundation was obtained for the purpose of conducting a training program to upgrade the level of skill of Indonesian physicians and nurses who will participate in our research programs.

Enteric Diseases

A pre-trial of the oral Ty21a typhoid vaccine was conducted in a group of children to determine the palatability of this vaccine in this group. Serum assays of the antibody response to vaccination are in progress.

In August 1986, the WHO sponsored vaccine trial was begun. During the next month, over 20,000 people were vaccinated weekly for three weeks in a double blind placebo controlled trial comparing the liquid/bicarbonate formulation with the enteric coated capsule formulation. A follow-up surveillance program was begun. The code for this vaccine trial is to be broken two years after vaccination.

Cholera

- A double blind trial of the efficacy of glycine supplemented ORS compared to standard citrate based ORS in reducing gut secretion in cholera patients is in progress.

Tropical diseases

- Human leukocyte antigen (HLA) type determinations have been begun in dengue hemorrhagic fever patients. To date, the numbers of patients tested are too small to draw conclusions.

ENTOMOLOGY DIVISION - Jakarta

Mission: To investigate insect transmitted diseases of military importance in Asia; to study adult and larval behavior and habitats of vectors; to maintain a mosquito insectary for experimental use; to identify anthropods of medical importance; to test and evaluate equipment of importance to DOD vector control programs.

Current Research:

- Epidemiology of malaria and malaria vaccine test site development in Irian Jaya, Indonesia.
- Biological control of Aedes aegypti using Toxorhynchites splendens in Jakarta.
- Studies of the factors affecting cannibalism in T. splendens.
- Genetic selection of a non-cannibalistic strain of T. splendens for use in mass rearing programs.
- Use of blood-meal enemas to study the effect of virus titer on infection and transmission rates Japanese encephalitis vectors.

Accomplishments

- Testing by sporozoite ELISA of malaria vectors collected to date in Irian Jaya has indicated that both Plasmodium falciparum and P. vivax develop to the sporozoite stage in all three common vector species present.
- Completed year-long study of mosquito-borne disease among expatriates in Jakarta. This study demonstrated that mosquito-borne viruses are not a significant cause of morbidity in the expatriate community, despite high rates of sero-conversion among sentinel animals.
- Established a T. splendens rearing program in the Indonesian Ministry of Health and trained MOH technicians in rearing procedures in preparation for field trials as a biological control agent.
- Determined that container shape, specifically surface area to volume ratio of the habitat, is a major factor influencing the rate of larval cannibalism in T. splendens. Other factors previously thought to be of importance, such as prey density, container size, and size differences among larvae, were shown to have only minimal influence.

- Demonstrated that cannibalistic behavior in T. splendens is not subject to selection.
- Demonstrated that early instar larvae of T. splendens can undergo starvation for much longer periods than had been previously reported in the literature.

Presentations in 1986:

- 4th Annual Asian Regional DOD laboratories Meeting, Fraser's Hill, Malaysia, 12-16 May 1986.
3 presentations.
- Entomological Society of America, Reno, NV, 7-12 December 1986.
1 presentation.

IMMUNOLOGY DIVISION - Jakarta

Mission: To carry out research and development on the immunology of diseases of military importance in Indonesia; to obtain information on the epidemiology, rapid diagnosis, pathophysiology, treatment and control of clinical diseases; to maintain up-to-date diagnostic support capabilities; and to identify and characterize test sites for developing chemotherapy and immunoprophylaxis.

Current Research Interests:

- Immunological Studies of Malaria Infections:
 - Determine the serum factors which inhibit merozoite invasion and intraerythrocytic growth in vitro. Comparison of differences in inhibitory mechanisms found in sera from various geographical areas.
 - Determine whether the different tests for humoral and cellular immunity to malaria can be correlated with clinical immunity to malaria.
 - Cellular and humoral immune response of short and long-term residents of malarious areas as measured by ELISA, IFA and LTA to blood-stage and recombinant DNA circumsporozoite proteins of P. falciparum and P. vivax.
 - Acquisition of humoral and cellular immune responses to the candidate sporozoite vaccine antigens in non-immune individuals moving into malarious areas.
 - Correlation of in vitro IL-2R production and release by lymphocytes in the presence of R32tet32 to in vitro lymphocyte transformation and in vitro antibody levels.
 - Development of human monoclonal antibodies against P. falciparum and P. vivax CSP antigens for therapeutic agents and for analysis of the humoral immune response.
- Immunology of Filariasis.
 - Testing an antigen detection ELISA developed by Dr. Gary Weil (Washington University, St. Louis, MO) for detecting circulating antigen of W. bancrofti in patients' serum.
 - Development of mouse monoclonal antibodies to surface antigens of W. bancrofti for diagnostic reagents and study of protective immunity.

Accomplishments:

- Malaria growth-inhibition assay. There are two mechanisms of in vitro growth inhibition P. falciparum by human sera from various endemic areas. Most Indonesian sera from Irian Jaya and Flores inhibit merozoite invasion of RBCs; this is probably antibody-mediated. All Philippine sera from Palawan that was tested prevented intracellular parasite development. This is a non-antibody factor and may be analogous to the "crisis-form" factor described by Jensen.
- The B and T lymphocyte cellular responses to the P. falciparum and P. vivax CSP antigens have been tested in residents of endemic areas. B and T cells are stimulated to proliferate by the CSP antigens; preliminary evidence suggests that IL-2R production may be correlated with the presence of specific antibodies to R32tet32 and proliferation in the LTA.
- Previously studied malarious areas in Flores, Indonesia had a very successful vector control program which reduced the prevalence of malaria. The serum from selected residents of these villages were tested for specific antibody to R32tet32 before and after the one year malaria control program to determine the duration of naturally acquired immunity. Antibody titers to R32tet32 remained unchanged before and after the control program; however, titers to blood-stage antigens as determined by IFA, dropped after the control program.
- Immunology of filariasis. The W. bancrofti antigen detection ELISA is currently being tested using sera from filariasis patients pre- and post-treatment. These sera were provided by Dr. Felix Partono (University of Indonesia).
- Immunology of filariasis. Mice have been immunized with live third-stage larval (L3) of W. bancrofti. Spleen cells from one mouse were fused with SP-2 myeloma cells. These cells will be tested for antibody to surface antigens of W. bancrofti L3.

Seminars given by LT E. D. Franke in 1986:

- Malaria, International Allied Medical Association, Jakarta, 28 May 1986.
- In vitro cultivation of filarial worms, Departments of Parasitology, Microbiology, and Pathology, University of Indonesia, Jakarta, 17 July 1986.

Meetings attended by members of the Immunology and Parasitology Division in 1986:

- 4th Annual Southeast Asian Regional DOD Laboratories Meeting, Fraser's Hill, Malaysia, 12-16 May 1986.
Attendees: Dr. J.R. Campbell and Dr. E.L. Franke
- 6th International Congress of Parasitology, Brisbane, Australia, 25-29 August 1986.
Attendee: Dr. E.L. Franke
- Indonesian Medical Microbiology and Parasitology Congress, Yogyakarta, Indonesia, 28-30 September 1986.
Attendees: Dr. Iwa, Dr. Soekartono, and Dr. Sofyan
- American Society of Tropical Medicine and Hygiene/American Society of Parasitology joint meeting, Denver, CO, 7-13 December 1986.
Attendees: Dr. E.L. Franke and Dr. Lane
- Ciba Symposium on filariasis, Singapore, 18 May 1986.

MICROBIOLOGY DIVISION - Jakarta

Mission: To carry out basic and applied research and development on bacterial diseases of military importance in Indonesia; to obtain information on the epidemiology, diagnosis, pathophysiology, treatment, prevention and control of microbial, especially bacterial, diseases; provide clinical bacteriology diagnostic support for all Detachment endeavors and certain outside collaborators and organizations; and to specifically develop and apply rapid diagnostic tests and reagents for diarrheal and febrile microbial (bacterial, viral, and parasitic) diseases.

Current Research Interests:

- Development and application of staphylococcal coagglutination (COAG) tests in the rapid diagnosis of enteric fevers (typhoid and paratyphoid), diarrheal diseases (e.g. cholera and rotavirus and campylobacteriosis), and other febrile tropical diseases (e.g. dengue, japanese encephalitis, chikungunya virus and malaria).
- Development of improved selective and enrichment cultures for enteric fever pathogen isolation.
- Test evaluate, apply, and/or modify other experimental and commercial rapid diagnostic tests or procedures to specific disease problems in this region.
- Support all field and hospital based studies requiring bacteriological analyses and provide diagnostic assistance and training to collaborating local university and hospital laboratories, the U.S. Embassy Health Unit and Jakarta International School.

Accomplishments:

- COAG tests, reagents and kits.
 - Gastroenteritis and secretory diarrhea. Besides the established cholera COAG kit and procedures, two additional tests have been developed, improved, and are undergoing comparative testing:

The candidate rotavirus COAG kit and test appears to be as sensitive and specific as commercial ELISA and latex agglutination kits and vastly more economical to make and use. The rotavirus COAG is easy to prepare with any good polyclonal antiserum, particularly a rabbit antiserum. This will be the second component of a three-test kit for gastroenteritis and secretory diarrhea.

A very new candidate COAG procedure and reagents have been made to detect Campylobacter spp. flagellar antigen, specifically flagellin, in stool samples. This test would be the third component of the three-test kit. The anti-flagellar activity is essential for a "grouping" test because of the numerous somatic antigen types in Campylobacter.

- Antigen detection by COAG in body fluids.

The detection of any antigen in human serum by COAG has been complicated by the non-specific agglutination of both antibody-containing and control cells, even in "normal" human serum. This non-specific agglutination of test and control cells has been eliminated by diluting the human serum in oxgall, taurocholate, or other bile salt diluents. For example, when S. typhi Vi antigen is present it can be detected at 0.01 ng/ml in human serum.

S. typhi Vi antigen can be detected also at the 0.01 ng/ml level by COAG in urine specimens where the pH has been adjusted to about 7.8 using phenol red indicator. Antigen detection in urine is now very uniform and the COAG test is very easy to read.

- Other COAG systems.
- The P. falciparum sporozoite COAG development was slowed by a short supply of anti-sporozoite monoclonal antibodies, but a new reagent shows promise of being as sensitive as the sporozoite ELISA. The sporozoite COAG should be much easier to use in the field than the ELISA.
- Susceptibility testing of bacterial isolates.
 - The in vitro antimicrobial susceptibility patterns of all bacterial isolates remains stable. No multiply-resistant pathogens, with a few long standing exceptions, have been isolated. There are suggestions that some new cephalosporin antibiotics are not clinically effective, but the in vitro testing does not reveal any resistant isolates, especially among the important enteric fever agents, S. typhi and S. paratyphi A.
 - The isolates from patients in the oral typhoid fever vaccine trial do not differ from isolates from previous years in their antibiograms.
- Selective and enrichment media for blood cultures.

No new or improved selective or enrichment media or procedures have been developed. The blood clot or streptokinase blood clot culture technique for S. typhi, S. paratyphi A, or other bacteremia-associated salmonellae, was shown to be no better than established blood culture techniques and will be abandoned as a viable or sensitive technique.

PARASITOLOGY DIVISION - Jakarta

Mission: To carry out research and development on parasitic diseases of military importance in Indonesia; to obtain information on the epidemiology, rapid diagnosis, pathophysiology, treatment and control of clinical diseases; to maintain up-to-date diagnostic support capabilities; and to identify and characterize test sites for developing chemotherapy and immunoprophylaxis.

Current Research Interests:

- Continuous in vitro culture of Plasmodium falciparum.
- In vitro cultivation of Wuchereria bancrofti, especially L3, for antigenic material, in vitro drug screening and development studies.
- Preparation of P. vivax and P. malariae infected blood for extraction of parasite DNA for production of genomic libraries.
- Preparation of antigens of P. falciparum for diagnostic and immunological studies.
- Mechanism of the inhibition of growth of P. falciparum in red blood cells from people with ovalocytosis.
- In vitro growth inhibition assays of malaria to **determine antibody** or other serum factors as indicators of natural protective **immunity against** malaria. Fractionation of serum to characterize the inhibitory **serum factors**.

Accomplishments:

- There are 6 strains of P. falciparum from Indonesia and 16 additional strains from around the world which are adapted to continuous culture and are available in our laboratory.
- Wuchereria bancrofti culture and development. Infective, third-stage larvae molt to the fourth stage in a cell-free medium. Best growth and development occurs in a medium supplemented with 10-30% human serum. A number of other defined and undefined supplements tested did not improve larval growth or development.
- P. vivax and P. malariae-infected blood have been processed for DNA extraction for production of genomic libraries. This is a collaborative project with colleagues at NMRI, Bethesda. A "shotgun" bank of fragments was produced, but the CSP gene of P. malariae has not been cloned due to the lack of suitable probe.

- P. falciparum antigens were collected and a crude malaria antigen was prepared for electrophoretic analysis and use in an ELISA by the Immunology Department.
- Additional blood samples were obtained from individuals with ovalocytosis living in Napu Valley, Central Sulawesi. These cells are currently being used to investigate the mechanism of resistance of ovalocytes to infection with malaria. Freeze-fracture analysis and transmission electron microscopy will be done on all cells collected.
- Results of the malaria growth inhibition assay are started in the Immunology Department accomplishments.

VIROLOGY DIVISION - Jakarta

Mission: To investigate and report viral diseases of military importance in Indonesia; to obtain information on the epidemiology, rapid diagnosis, pathophysiology, treatment and control of viral diseases; to assist local personnel in diagnosis of viral diseases; and to assist in routine surveillance of endemic viral diseases.

Current Research Interests:

- Epidemiology and diagnosis of dengue, dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS) in endemic Indonesian populations.
- Epidemiology and diagnosis of febrile viral diseases. Includes expatriate viral disease surveillance, sentinel animal studies and isolation of viruses from potential insect vectors.
- The collection of serum samples from humans, wild and domestic mammals to determine the presence of antibodies against known viruses of medical importance.
- The determination of endemicity of influenza in different populations on Java.
- The diagnosis of alphavirus infections using cell lines, mosquitoes and enzyme-linked immunosorbent assay in comparative studies.
- Rapid diagnosis of febrile and diarrheal diseases in Indonesia.

Accomplishments:

- Chikungunya Virus Disease. One alphavirus isolate from a hemorrhagic fever patient in Jakarta indicates this disease remains endemic and a threat to personnel naive to this group of viruses. Sero-conversion in patients from Yogyakarta indicates the disease is endemic in that area.
- Culture of Aedes aegypti mosquitoes collected in the Ungaran area and the Bantul area south of Yogyakarta yielded dengue viruses. Culex sp. from this area have also yielded Japanese encephalitis-like viruses.
- Toxorhynchites splendens adults were found to be the most effective method of culturing dengue virus from hemorrhagic fever patients at Cipto Hospital. TRA 284 cells were found to be superior to other cell lines.

- Culture of sera from patients in Yogyakarta yielded dengue 1,2, and 3. From patients in the Jakarta area, dengue 1,2,3, and 4 were isolated.
- Hemagglutination inhibition serology for flaviviruses was begun on a sample of over 5,000 Jakarta school children to determine background titres, age of sero-conversion, and background viremia. One isolate was obtained from 3,000 of the sera, indicating a very low viremia prevalence in normal children, as was expected.
- Cholesterol levels in Presbytis cristata monkeys being fed 1 egg per day were found to be 80% higher than has been reported as normal for other non-human primates. This study is to be continued to determine the effect of withdrawal of the eggs from the diet.
- Sentinel animal testing using mice and gerbils continued into 1986 in the Jakarta areas. Sero-conversion to alpha- and flaviviruses continued to occur. Dengue virus was isolated from expatriates living in the Jakarta area, however, they had traveled outside the city.
- Mosquito trapping in Ungaran was begun by Department of Health, Ecology Personnel for culture by NAMRU. Dengue isolates were obtained from mosquitoes captured in this joint project.
- Japanese encephalitis-like virus was isolated from a chicken in the Yogyakarta area.

RESEARCH SUPPORT DEPARTMENT (Manila)

Mission. To assist the Commanding Officer by ensuring that his orders, policies and mandates are carried out by close observation and coordination with all departments of the command; develop, plan and execute policy as it relates to the administrative functions of the command. Coordinate and filter all administrative input and output to and from the Commanding Officer; and establish sound administrative procedures for the smooth operation of the command.

Current interests:

- Establishment and management of facilities maintenance and repair function aside from biomedical repair capability.
- Upgrading of telecommunication both local at command level, intra-island (Luzon) capability and RP to US link.
- Oversight of programs aimed to increase compliance with OSHA, and other safety related concerns.
- Improvement of physical security to cope with existing threat of vandalism, theft, robbery, etc.
- Increasing capability and efficiency of the transportation department by coordinating mission assignments and vehicular preventive maintenance requirements.
- Monitoring facets of all administrative process to identify fraud, abuse and waste and to implement programs to eliminate such deficiencies.

Accomplishments:

- Job related educational/training program for FSN staff - ongoing.
- Completed several habitability/efficiency/safety modifications of several command physical plant.
- Acquisition of extra vehicle for transportation department by successfully increasing our allotted ceiling for NAVFACPACDIV by one.
- Provided administrative/logistical support for several long ranged inter-island research missions.

RESEARCH SUPPORT DEPARTMENT - Jakarta

Mission. To ensure all administrative aspects, in support of research and development, are carried out in the most efficient and cost effective manner possible while enabling the scientific departments to achieve maximum scientific breakthroughs.

Current Interest:

- Eliminating fraud, waste, and abuse if noted.
- Improving internal rapport.
- Fostering goodwill within GOI and other U.S. agencies.
- Monitoring detachment funds/executing the budget.
- Monitoring supply operations/invoice processing.
- Obtaining preventive maintenance contracts for new equipment in the laboratory, Irian Jaya Field Laboratory and Central Hospital Dengue Pathophysiology Ward and Laboratory.

Accomplishments:

- Conversion of 56 non-personal services contract **employees** to FSN status in 6 months.
- Conducted an extensive timekeeping audit.
- Security cage constructed in Supply to safeguard pilferable items.
- Reduction of overtime and compensatory time among personnel by altering permanent work schedules.
- Installation of generator and modifications to generator building at Irian Jaya remote laboratory site.
- Completed position description review of FSN employees.
- Acquisition of 3 vehicles for transportation department.
- Updated selected detachment instructions.
- Personal services contract for one staff employee.

FINANCE AND SUPPLY DIVISION

Mission. To support the scientific and other administrative divisions of the Command and its detachment by providing monetary and quantitative information and services which include:

- Converting research program requirements into budget and other financial plans.
- Maintaining civilian expenditure accounts.
- Maintaining obligation records and preparing financial reports.
- Providing accounting support for joint research projects.
- Reviewing, analyzing and reporting to the Commanding Officer and Department Heads the progress of performance against budgetary and financial plans.
- Maintaining plant property accounts.
- Coordinating internal review program for the command and the Detachment.
- Act as the authorized accounting activity (AAA) for the command and for the Detachment.
- Ordering, receiving, storing, and shipping all required materials.
- Administering supply procedures and preparing reports as directed by higher authorities.
- Providing necessary services to repair and modify items of medical and/or laboratory equipment.
- Managing the command's imprest fund.

Current Interests:

- Monetary savings for the command by creating an effective technical review section responsible for screening requisitions with regards to the availability of equipment/supply items through the Navy supply system, suppliers with government contract and effective bidding system.
- To meet all reporting requirements on time.
- To meet the mandated RDT&E obligation phasing plan by closely monitoring expenditures.

- To manage effectively and efficiently all RDT&E appropriations made available to this command.
- To monitor, detect and prevent waste, fraud and abuse within the command by having an effective internal control system and efficient internal control program.
- To coordinate closely with the U.S. Embassy and OICCSWP concerning services being provided to this command.

Accomplishments:

- Repair and renovation of Pavilion 9. This project will provide spaces for Finance and Supply Officer's office, Accounting and Supply section, Biomedical Repair Shop, Facilities Maintenance Shop, transportation and storage spaces. Estimated turn over date, 1 April 1987.
- Rewiring of third floor, Bureau of Research and Laboratories. This project provides uninterrupted power to the laboratory spaces, upgraded the electrical system to U.S. standard, and for safety purposes.
- Construction of two generator houses and procurement of one 200 kw generator set. This project provides emergency power supply to third floor, BRL. Existing 100 kw generator set was transferred near the Medical Library to provide emergency power source to Medical Library, Pavilion 9 and Animal House.
- Renovation of Pavilion 2 and other NAMRU-2 laboratories and administration spaces. Miscellaneous repair of Pavilion 2 ward for AIDS study, leptospirosis study, etc. Miscellaneous repair of Virology Laboratory, Pavilion 7.
- Construction of NAMRU-2 Malaria Research Laboratory/Quarters at Barangay Napsan, Puerto Princesa, Palawan. This building provides not only adequate laboratory and sleeping spaces for NAMRU-2 malaria research team but also adequate water supply, lighting and restroom facility.
- Renovation of Social Hygiene Clinic, Olongapo City and Angeles City. Repair and alteration of two rooms at Social Hygiene Clinic, Olongapo City (completed) and one room at Social Hygiene Clinic, Angeles City (ongoing), to provide this command adequate spaces for the continued surveillance of AIDS and other VD in these areas.
- Internal review of of NAMRU-2 Detachment.
- Internal review of NAMRU-2 ADP and Library operations.
- Annual review of timekeeping function.

PART III

AWARDS, HONORS

AND

NOTABLE EVENTS

AWARDS AND HONORS
1986

LCDR George Watt, MD, USNR received the Commanding Officer's Special Merit Award for best publication of the year.

Ms. Grace Paulino received the Commanding Officer's Special Merit Award for best technical support of the Command.

Ms. Gloria Nuguid received the Commanding Officer's Special Merit Award for best administrative support of the Command.

Dr. Narain H. Punjabi, Dr. Nono Sukri and Maman Supriatman of the Division of Clinical Investigation and Epidemiology received awards for sustained superior performance.

NOTABLE EVENTS OF 1986

RESEARCH SUPPORT DEPARTMENT AND VIROLOGY DIVISION OCCUPIED PAV-7

In May, the offices of the Commanding Officer, Chief Scientist, Administrative Officer, Senior Chief, Publications, Computer Section and Virology Division moved to Pav-7.

RENOVATION OF SAN LAZARO BUILDING

Renovation of Pavilion 9 started on 29 September 1985 and progressing with final occupancy anticipated to be in June 1987. Pavilion 9 will house the offices of the Finance and Supply Division, Biomedical Repair Shop, Facilities Maintenance Shop, transportation and storage space.

CONSTRUCTION OF NAMRU-2 LABORATORY IN NAPSAN, PALAWAN

In October, an agreement was established between NAMRU-2 and the Republic of the Philippines, represented by the people of Napsan, Puerto Princesa, Palawan, to construct a NAMRU-2 laboratory facility. This facility will be utilized by NAMRU-2 personnel particularly the Parasitology and Entomology Division for conducting malaria field research projects, collection of mosquitoes and other projects relative to NAMRU-2 research. The construction of the laboratory began on November 29, 1986 and was completed in January 1987, and is providing the necessary facilities, space storage and work in the area. After 10 years the facility will be turned over to the barangay for their use.

CHANGE IN THE PHILIPPINE DEPARTMENT OF HEALTH PERSONNEL

The Philippine Department of Health has a new head. Dr. Alfredo Bengzon was appointed as the Secretary of the Department of Health in 1986.

CHIKUNGUNYA FEVER EPIDEMIC IN THE PHILIPPINES

An epidemic of Chikungunya Fever was documented in the Philippines for the first time since 1966. This outbreak probably represents an extension of epidemic activity documented in Indonesia during 1984. Over 100 cases have been identified in local nationals, U.S. Peace Corps Volunteers and U.S. Military personnel using the IgM capture ELISA as a rapid diagnostic procedure.

JAPANESE ENCEPHALITIS IN U.S. MILITARY PERSONNEL

Two members of the U.S. Armed Forces stationed in the Philippines contracted Japanese encephalitis during 1986. Both cases survived, but one required medical evacuation to the U.S.A. because of the persistence of neurological deficits. Both cases were rapidly diagnosed using an IgM antibody capture ELISA. In view of these cases, the need to vaccinate U.S. Military personnel stationed in the Philippines needs to be considered.

PROJECT HOPE

In April, a team representing Project Hope, the Rockefeller Foundation and Boston Children's Hospital came to Indonesia to conduct a site visit to evaluate the feasibility of conducting a training program in critical care medicine. This visit has resulted in their commitment over three years to develop Indonesia's critical care medicine capability.

NAMRU-2 DETACHMENT COMMUNITY SERVICE

CDR Paleologo, head of the Division of Clinical Investigation, provided community service by lecturing to medical and lay groups in Jakarta, as well as participating as a speaker in a continuing medical education seminar for missionary physicians and nurses in Irian Jaya.

OTHER MEETINGS AND CONFERENCES ATTENDED BY NAMRU-2 MANILA STAFF IN 1986

Workshop on the Navy Operational Entomology/Tri-Service, Jacksonville, Florida, 21 February - 1 March 1986.

Attendee: LT George W. Schultz

Training on Secretarial Decision Making, Subic Bay, Philippines, 4-7 March 1986.

Attendee: Ms. Vivian V. Reyes

Training on Governmental Auditing Standards, Subic Bay, Philippines, 12-14 March 1986.

Attendees: Mr. Hernani T. Manalo and Ms. Ofelia A. Ables

ASM Biotechnology and Annual Conference, Washington, D.C., 20-28 March 1986.

Attendee: LCDR Richard B. Oberst

79th Annual Convention of the Philippine Medical Association, PICC, Manila, Philippines, 9-12 April 1986.

Attendees: CAPT Larry W. Laughlin, LCDR George H. Watt, LCDR Harvey J. Adkins, Dr. Curtis G. Hayes, and Dr. Amado San Luis

National Congress on Library Development Seminar , Baguio City, Philippines, 10-12 April 1986.

Attendee: Ms. Myrna Y. Uyengco

American Mosquito Control Association Meeting, 18-24 April 1986.

Attendee: LT George W. Schultz

Training on Building Essential Secretarial Techniques, Subic Bay, Philippines, 21-25 April 1986.

Attendees: Ms. Gloria A. Nuguid and Ms. Vivian V. Reyes

4th Australian Arbovirus Symposium, Brisbane, Australia, 5-10 May 1986.

Attendees: Dr. Curtis G. Hayes and LCDR Thomas F. O'Rourke

4th Annual Southeast Regional Laboratory Conference, Fraser's Hill, Malaysia, 12-16 May 1986.

Attendees: CAPT Larry W. Laughlin, LCDR George H. Watt, LCDR Harvey J. Adkins, LCDR Richard B. Oberst, LT George W. Schultz, LT Marc A. Laxer, Dr. Curtis G. Hayes

Training on Government Contract Administration, Subic Bay, Philippines, 19-23 May 1986.

Attendee: Mr. Antonio N. Del Carmen

Training on Microcomputer Tutorials, Subic Bay, Philippines, 27-30 May 1986.

Attendee: Ms. Ma. Cristina N. Baler

Workshop on Philippine Field Epidemiology Training Program, Puerto Azul, Philippines, 9-10 June 1986.

Attendee: CAPT Larry W. Laughlin

Designing Systems on the Micros, Subic Bay, Philippines, 9-11 June 1986.

Attendee: Ms. Ma. Cristina N. Baler

Facilities Planner Course, Pearl Harbor, Hawaii, 16-20 June 1986.

Attendee: LT Danilo L. Yu

Special Projects Seminar, Pearl Harbor, Hawaii, 24-25 June 1986.

Attendee: LT Danilo L. Yu

6th International Congress of Parasitology, Brisbane, Australia, 24-29 August 1986.

Attendees: CAPT Larry W. Laughlin and LCDR George H. Watt

International Workshop on Aeromonas and Plesiomonas, Manchester, England, 5-6 September 1986.

Attendee: CAPT Larry W. Laughlin

14th International Congress of Microbiology, Manchester, England, 8-12 September 1986.

Attendee: CAPT Larry W. Laughlin

Training on Professional Development for Secretaries, Subic Bay, Philippines, 15-19 September 1986.

Attendee: Ms. Vivian V. Reyes

Training on Budget Execution, Subic Bay, Philippines, 29 September - 1 October 1986.

Attendee: Ms. Ofelia A. Ables

Training on Budget Cuts, Subic Bay, Philippines, 2-3 October 1986.

Attendee: Ms. Ofelia A. Ables

Training on English Pronunciation, Subic Bay, Philippines, 20-21 October 1986.

Attendee: Ms. Rosemarie B. Vega

Effective Writing, Subic Bay, Philippines, 27-31 October 1986.

Attendee: Ms. Nelly S. Agustin

Conference Workshop for Medical Librarians, Cebu City, Philippines, 2-8 November 1986.

Attendee: Ms. Myrna Y. Uyengco

Training on ELISA Technique for Diagnosis of Rickettsia, Kuala Lumpur, Malaysia, 2-8 November 1986.

Attendee: Ms. Grace P. Paulino

Leptospirosis Conference, Chicago, Illinois, 18-20 November 1986.

Attendee: LCDR George H. Watt

9th Annual Convention of Philippine Society of Microbiology and Infectious Diseases, Century Park Sheraton Hotel, Manila, Philippines, 21-22 November 1986.

Attendees: CAPT Larry W. Laughlin, LCDR Richard B. Oberst, LT Marc A. Laxer, Dr. Curtis G. Hayes, Dr. Alberto K. Alcantara, Dr. Nunilon Sy, Dr. Corazon Manaloto

2nd Asean Conference in Medical Laboratory Technology, PICC, Manila, Philippines, 24-28 November 1986.

Attendee: Dr. M. Patricia Joyce and Ms. Shirley Cruzada

Training on Agency Budgeting Workshop, Subic Bay, Philippines, 25-28 November 1986.

Attendee: Ms. Marissa T. Bautista

Army/Navy Overseas Laboratory Strategy Planning Conference, WRAIR, Washington, D.C., 3-4 December 1986.

Attendees: CAPT Larry W. Laughlin and Dr. Curtis G. Hayes

1st International Conference on the Impact of Viral Diseases on the Development of Asian Countries, Bangkok, Thailand, 6-15 December 1986.

Attendee: Dr. Corazon Manaloto

Tropical Medicine & Hygiene Meeting, Denver, Colorado, 7-11 December 1986.

Attendees: CAPT Larry W. Laughlin, LCDR Richard B. Oberst, LCDR George H. Watt, LCDR Thomas F. O'Rourke, LT George W. Schultz, LT Marc A. Laxer, Dr. Curtis G. Hayes and Dr. M. Patricia Joyce

Military Infectious Diseases Seminar, Baltimore, Maryland, 12-14 December 1986.

Attendee: CAPT Larry W. Laughlin

Command Planning Board Conference, Virginia Beach, Virginia, 15-17 December 1986.

Attendees: CAPT Larry W. Laughlin and Dr. Curtis G. Hayes

Symposium on Thesaurus Development in the Health Sciences, 18 December 1986.

Attendee: Ms. Myrna Y. Uyengco

OTHER PRESENTATIONS MADE BY NAMRU-2 DETACHMENT STAFF FOR THE YEAR 1986

Southeast Asian Regional Tropical Diseases Meeting, Fraser's Hill, Malaysia, 11-18 May 1986.

2 Virology papers presented

14th International Congress on Microbiology, Manchester, England, 7-13 Sept 1986.

1 Virology paper presented

3rd Indonesian Medical Microbiology and Parasitology Congress, Yogyakarta, 28-30 Sept 1986.

2 Virology papers presented

Economic Impact of Viral Diseases Congress, Bangkok, 6-12 Dec 1986.

1 Virology paper presented.

American Society of Tropical Medicine and Hygiene, Denver, CO, 7-11 Dec 1986.

1 Virology paper presented.

1986 FIELD TRIPS

Philippines

2-3 Jan	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
6-8 Jan	Pundakit, Zambales	Malaria project and mapping of village
8-9 Jan	Tipo, Bataan	Malaria project
13-14 Jan	Tayabas, Quezon	Collection of malaria vectors
13-14 Jan	Subic/Cubi area VP 22	Dengue study
15 Jan	Tuguegarao, Cagayan	Japanese encephalitis surveillance
15-16 Jan	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
17-19 Jan	Laoag City, Ilocos Norte	Japanese B surveillance study
22-23 Jan	Tipo, Bataan	Malaria project
22-24 Jan	Subic Bay warehouse	Survey of excess equipments and books
22-29 Jan	Pundakit, Zambales	Malaria treatment study
27-28 Jan	Tayabas, Quezon	Collection of malaria vectors
30-31 Jan	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
30-31 Jan	Pundakit, Zambales	Completion of village census
3-5 Feb	Pundakit and Subic City	Malaria project and vector survey
10-11 Feb	Tipo, Bataan	Malaria project
12-13 Feb	Sto. Domingo, Nueva Ecija	Japanese encephalitis project

24-28 Feb	Puerto Princesa, Palawan	Logistics planning and site visits with MES for malaria survey
3-4 Mar	Tayabas, Quezon	Malaria vector competence study
3-5 Mar	Nueva Ecija	Japanese encephalitis study
6-7 Mar	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
9-11 Mar	Subic Bay warehouse	Survey and inventory of remaining supplies and equipments
10-17 Mar	Puerto Princesa, Palawan	Malaria survey
19-20 Mar	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
19-26 Mar	Pundakit, Zambales	Malaria chemoprophylactic study
24-25 Mar	Pundakit, Zambales	Malaria project
31 Mar - 1 Apr	Pundakit, Zambales	Malaria study
2-3 Apr	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
7-8 Apr	Pundakit, Zambales	Malaria project
7-9 Apr	Pundakit, Zambales	Malaria study
9-10 Apr	Tuguegarao, Cagayan	Japanese B encephalitis study
14-16 Apr	Pundakit, Zambales	Malaria study
15-16 Apr	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
21-23 Apr	Pundakit, Zambales	Malaria study
23-24 Apr	Tipo, Bataan	Malaria project
24-25 Apr	Davao City	Japanese B encephalitis study
28-30 Apr	Pundakit, Zambales	Malaria study
29-30 Apr	Tayabas, Quezon	Malaria vector collection

5-7 May	Pundakit, Zambales	Malaria study
7-8 May	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
12-14 May	Pundakit, Zambales	Malaria study
14-15 May	Antipolo, Rizal	Malaria vector collection
19-21 May	Pundakit, Zambales	Malaria study
21-22 May	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
26-28 May	Pundakit, Zambales	Malaria study
27-28 May	Pundakit, Zambales	Malaria project
29-30 May	Tipo, Bataan	Malaria project
2-4 Jun	Pundakit, Zambales	Malaria study
4-5 Jun	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
9-11 Jun	Pundakit, Zambales	Malaria study
10-11 Jun	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
14-28 Jun	Puerto Princesa, Palawan	Malaria site survey
16-18 Jun	Pundakit, Zambales	Malaria study
23-25 Jun	Pundakit, Zambales	Malaria study
30 Jun - 1 Jul	Pundakit, Zambales	Malaria project
2-3 Jul	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
7-9 Jul	Pundakit, Zambales	Malaria study
7-11 Jul	Olongapo City	Collect info on HTLV-III
15-17 Jul	Davao and Cebu	Japanese B surveillance and follow-up studies in Davao; initial collaborative study on HTLV-III in Cebu

16-17 Jul	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
16-19 Jul	Cebu	Blood extraction on hospitality girls for HTLV-III study
21-25 Jul	Angeles City	Blood extraction on hospitality girls for HTLV-III study
23 Jul	Tuguegarao, Cagayan	Japanese B surveillance and follow-up studies
28-29 Jul	Pundakit, Zambales	Malaria project
30-31 Jul	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
31 Jul	Laoag City, Ilocos Norte	Japanese B surveillance and follow-up studies
4-8 Aug	Wawa, Rizal and Subic Bay	Assist AFRIMS in collection of <u>An. maculatus</u>
4-8 Aug	Subic Bay warehouse	Upgrade freezer capability at Subic warehouse in order to accommodate the increasing specimens storage requirements
5-7 Aug	Puerto Princesa, Palawan	Deliver medicines to Napsan study site and plan for return in September
11-13 Aug	Subic City and Naval Magazine area	Subic Bay malaria and arbovirus project
14-15 Aug	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
25-26 Aug	Pundakit, Zambales	Malaria project
27-28 Aug	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
3-5 Sep	Gordon Heights and Green	Subic Bay vector survey project Beach, Subic Bay
9-10 Sep	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
13-27 Sep	Napsan/Puerto Princesa, Palawan	Malaria survey site (blood collection, entomology, O and P survey)

15 Sep	Davao City	Japanese encephalitis surveillance
17 Sep	Tuguegarao, Cagayan	Japanese encephalitis surveillance and follow-up studies
18 Sep	Laoag, Ilocos Norte	Japanese encephalitis and follow-up studies
20-21 Sep	Napsan/Puerto Princesa, Palawan	Bring back specimens from Palawan
24-26 Sep	Baguio City	Blood extraction on hospitality girls for HTLV-III study
30 Sep - 10 Oct	Pundakit, Zambales	Malaria project
2-3 Oct	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
8-9 Oct	Pastolan, Subic Bay	Subic Bay vector survey
13-15 Oct	Green Beach, Subic Bay	Malaria project
15 Oct	Cagayan de Oro	To bleed girls for HTLV-III study
16-17 Oct	Bacolod City	To bleed chikungunya suspected cases and to get CSF
16-17 Oct	Tipo, Bataan	Malaria project
20-21 Oct	Pundakit, Zambales	Malaria project
20-22 Oct	Davao	To bleed hospitality girls for HTLV-III study
22-23 Oct	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
22-25 Oct	Puerto Princesa, Palawan	Malaria field site work
27-28 Oct	Subic City	Malaria project
29-30 Oct	Naval Magazine, Subic Bay	Malaria project
3-4 Nov	Pundakit, Zambales	Malaria project

5-6 Nov	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
6-7 Nov	Napsan/Puerto Princesa	Malaria program in Napsan - deliver supplies and provide technical assistance in blood smear collection
10-11 Nov	Pundakit, Zambales	Mosquito monitoring
12-13 Nov	Gordon Heights	Subic Bay vectory survey
13-14 Nov	Bacolod City	Follow up on chikungunya cases, collection of blood
17-18 Nov	Pundakit, Zambales	Monitor vectors
19-20 Nov	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
23-26 Nov	Puerto Princesa, Palawan	Negotiation and awarding of contract for construction of one story building at Bgy. Napsan
3-4 Dec	Sto. Domingo, Nueva Ecija	Japanese encephalitis project
6 Dec	La Loma Cemetery	Dengue project
15-16 Dec	Pundakit, Zambales	Malaria project
17-18 Dec	Sto. Domingo, Nueva Ecija	Japanese encephalitis project

1986 FIELD TRIPS
Jakarta Detachment

18 Jan - 9 Feb	Jayapura, Mapurujaya and	Malaria field study Timika, Irian Jaya
4 Mar - 11 Apr	Jakarta	Jakarta School Serology study
11-21 Mar	Irian Jaya	Viral studies
24 Mar - 1 Apr	Yogyakarta	Viral studies
10-31 Mar	Jayapura, Tembagapura, Timika and Kwamki Lama, Irian Jaya	Malaria field study
18 Jun - 18 Jul	Pondok Ranji	Pre-trial for typhoid vaccine study
18 Aug - 12 Sep	Plaju, Sumatera	Typhoid vaccine trial
8-30 Sep	Jayapura, Timika and Kwamki Lama, Irian Jaya	Malaria field study
28 Sept - 1 Oct	Yogyakarta	Viral studies
20-31 Oct	Jayapura and Timika, Irian Jaya	Malaria field study

PART IV
DISTINGUISHED VISITORS
AND FELLOWS

DISTINGUISHED VISITORS

(1986)

Manila Headquarters

CAPT William M. Houk	Commanding Officer Naval Medical Research and Development Command Bethesda, Maryland
CAPT Norman A. Dean	Officer in Charge EPMU-6, Pearl Harbor, Hawaii
COL Eric Donaldson	Director Australian Army Malaria Research Unit Sydney, Australia
CDR Bob Bumgardner	Pathologist COMSUBPAC, Hawaii
CDR J.M. Lamdin	Entomologist NEHC, Norfolk, Virginia
CDR Bruce Merrell	EPMU-6 Hawaii
LTC John C. Twartz	Deputy Director Austrian Army Malaria Research Unit Sydney, Australia
MAJ Curtis R. Bartz	NAMRU-2 Detachment Jakarta
MAJ David Taylor	AFRIMS Bangkok, Thailand
LCDR Donald Herip	U.S. Naval Hospital Subic Bay
LCDR Eugene Pon	Epidemiologist EPMU-6, Pearl Harbor, HI
LCDR Richard Thomas	Epidemiologist EPMU-6, Pearl Harbor, Hawaii
LT Andrew W. Corwin	Assistant Program Manager for Infectious Diseases Naval Medical Research and Development Command

LT Henry Gordon, Jr.	Personnel Research Officer NODAC Washington, D.C.
LT Patricia L. Hines	Personnel Research Officer NMPC Detachment NODAC, Washington, D.C.
LT Ivory Taylor	Administrative Officer NAMRU-2 Detachment, Jakarta
LT George Vaughn	U.S. Naval Hospital Subic Bay
2nd LT Terry Lee, USAR	Uniformed Services University of the Health Sciences Bethesda, Maryland
LTjg Ronaldo Cruz	Camp Pendleton California
SGT Rick Barry	Clark Air Base
SGT Charles Luetngen	Subic Lab Subic Bay
HMC G. E. Macaranas	U.S. Naval Hospital Subic Bay
Mr. David Barkeley	Hawaii
Dr. John H. Cross	Department of Biometrics and Preventive Medicine Uniformed Services University of the Health Sciences Bethesda, Maryland
Dr. Arwin Diwan	Professor, Department of Tropical Medicine University of Hawaii
Mr. Alberto D. Dimalanta, Jr.	U.S. Naval Hospital Subic Bay
Mr. Kenneth Farr	Chief, Health and Nutrition USAID Manila
Dr. Tomas P. Maramba, Jr.	Officer in Charge Bureau of Research and Laboratories Manila

Ms. Valeriana G. Reyes

U.S. Naval Hospital
Subic Bay

Mr. Horacio Severino

Executive Assistant
Department of Health, Manila

Mr. John K. Stockham

U.S. Naval Hospital
Subic Bay

Mr. Craig Wallace

Director
Fogarty International Center
NIH

Ms. Mary White

Jakarta, Indonesia

DISTINGUISHED VISITORS

1986

Jakarta Detachment

CAPT W.M. Houk	Commanding Officer Naval Medical Research and Development Command Bethesda, Maryland
CAPT L. W. Laughlin	Commanding Officer NAMRU-2 Manila
CAPT Lyon	NAV ATT, Jakarta Consular USAID
COL Eric Donaldson	Director, Army Malaria Research Unit Sydney, Australia
COL A. Prayitno	Surgeon General Indonesian Navy
COL. Oetomo	Preventive Medicine Unit Indonesian Navy
MAJ David Taylor	AFRIMS (WHO Consultant) Bangkok, Thailand
CDR Stephen L. Hoffman	Naval Medical Research Institute (WHO Consultant) Bethesda, Maryland
LTCOL John C. Twartz	Army Malaria Research Unit Sydney, Australia
CPT Ralph E. Harbach	AFRIMS Bangkok, Thailand
LT A.L. Goodwin	Naval Medical Research and Development Command Bethesda, Maryland
LT D. YU	Fiscal Officer NAMRU-2 Manila
Hadi M. Abednego	Center for the Manpower Indonesian Ministry of Health

Karen Auditore-Hargreaves	Dia Tech/PATH Seattle, Washington
Dr. V. Baimai	Mahidol University Bangkok, Thailand
William B. Baranowski, RRT	Deputy to the Vice-President of Operations Project HOPE
Shelley L. Baranowski, RN, MS	Director of Nursing Project HOPE
H. Winanti Budiarsa	Hydraulic Engineer TIFA Building Jakarta
Mr. Rod Chappel	Atwood Veterinary Laboratory Victoria, Australia
Dr. John N. Christensen	Branch Clinic Naval Ordinance Station Indiana Head, Maryland
Marcia Cole	NAV ATT, Jakarta Consular USAID
Robert K. Crone, M.D.	Medical Director Multidisciplinary Intensive Care Unit Boston Children's Hospital
Dr. Claude Fourant	Groupe Hospitalier Cochin Paris, France
Dr. Rene Germanier	Swiss Serum Vaccine Institute
Dr. Scott B. Halstead	Associate Director for Health Sciences Research Rockefeller Foundation
Dr. Vanida Kerdpiakule	Faculty of Tropical Medicine Mahidol University Bangkok, Thailand
Dr. Pluem Kidkian	MRC-TROPMED Bangkok, Thailand
F. Marc La Force	World Health Organization EPI Geneva

Dr. D. Mahalanabis	Medical Officer Diarrheal Diseases Program World Health Organization
Dr. Robert Menard	French Embassy Jakarta
Dr. Adam Messer	SEAMEO-BIOTROP Bogor, Indonesia
Dr. Nathaniel F. Pierce	Research Coordinator Diarrheal Diseases Program World Health Organization
Gauran Pierre	Hydraulic Engineer TIFA Building Jakarta
Dr. Willy Piessens	Harvard School of Public Health Boston, Massachusetts
Z. Rossenberg	NAV ATT, Jakarta Consular USAID
Mr. Terry Spencer	Regional Veterinary Laboratory Victoria, Australia
Gene Smith	NAV ATT, Jakarta Consular USAID
Mr. W.B. Walsh, Jr.	Vice-President of Operations Project HOPE Millwood, Virginia
Dr. R. Wistar	Infectious Diseases Program Center Naval Medical Research Institute Bethesda, Maryland
Dr. R. Wittayawudthikul	MRC-TROPMED, Faculty of Tropical Medicine Mahidol University Bangkok, Thailand
Mr. Paul Wolfowitz	U.S. Ambassador to Indonesia
Dr. Peter Wolkonsky	Medical Director AMOCO Corp. Chicago, Illinois

FELLOWS AND TRAINEES
(Manila)

FELLOWS

Dr. Marivyl C. Javato	NAMRU-2/PSMID Fellow Microbiology Division 25 June 1986-1987
Dr. Dennis P. Maducdoc	NAMRU-2/PSMID Fellow Virology Division 7 July 1986-1987
Dr. Evangeline A. Oliman	NAMRU-2/PSMID Fellow Virology Division 3 July 1986-1987
Victor A. Ranin, DVM	NAMRU-2/PSMID Fellow Entomology Division 8 April 1986-1987
Dr. Laurena Padre	NAMRU-2/PSMID Fellow Tropical Medicine Division July 1986-1987
Dr. Linda Tuazon	NAMRU-2/SLH Fellow Tropical Medicine Division 1986-1987

TRAINEES/EXTERNS

Ma. Luisa delos Reyes Sulit	University of Sto. Tomas
Ma. Teresita G. Baleos	University of Sto. Tomas
Olivia D. Dolino	Southwestern University
Caroline M. Castillo	Philippine Women's University
Cynthia B. Lazo	Philippine Women's University
Rosario I. Santos	University of Sto. Tomas
Senen A. Descalzo	University of Sto. Tomas
Anthony C. Ignacio	Philippine Women's University

Michael dela Rosa Lara	University of Sto. Tomas
Grace E. Galindez	University of Sto. Tomas
Delia M. Sevigon	Centro Escolar University
Ma. Teodora Estrella Q. Erazo	Philippine Women's University
Ma. Cecilia Cruz	Centro Escolar University
Mildred Lourgelie Lim	Centro Escolar University
Elizabeth Pante	Philippine Women's University
Ma. Theresa Corpuz	University of Sto. Tomas
Diana Reyes	University of Sto. Tomas
Mylene Calalang	University of Sto. Tomas
Rona Ramos	Far Eastern University
Lourdes Ramirez	Philippine Women's University
Ginalyn Dalumpines	Far Eastern University
Morena Plata	University of Santo Tomas
Teodoro Bautista	De Ocampo Memorial School
Rene Leano	De Ocampo Memorial School
Estrella Corpuz	University of Sto. Tomas
Rosalinda Patricio	Centro Escolar University
Romel Romero	Martinez Memorial College
Ma. Luzviminda Cruz	University of Sto. Tomas

PART V
PUBLICATIONS

PUBLICATIONS
Manila and Jakarta

- Adkins, J.H. (1986). Laboratory aspects regarding the diagnosis of Chlamydia trachomatis. Phil. J. Microbiol. Infect. Dis., 15:31. (Abstract).
- Basaca-Sevilla, V., Cross, J.H. and Pastrana, E. (1986). The hepatitis B problem in the Philippines. Southeast Asian J. Trop. Med. Public Hlth., 17:75-81.
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- Hayes, C.G., O'Rourke, T. and Sarr, A. (1986). Chikungunya fever among U.S. Peace Corps volunteers - Republic of the Philippines. MMWR, 35:573-574.
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PART VI

FUNDED RESEARCH WORK UNITS

FUNDED RESEARCH WORK UNITS

Manila

1498 Work Units

- a. 3M161102BS10;AF429 "Infectious diseases and their vectors in the Philippines"
- b. 3M162770A870;AQ125 "The development and evaluation of improved diagnostic tests for infectious diseases in the Philippines"
- c. 3M162770A870;AN315 "Treatment of infectious diseases of military importance in the Philippines"

Independent Research Work Units

- a. New "Chikungunya fever in the Philippines"
- b. New "Epidemiology of HTLV-III/LAV infection in the Philippines"
- c. MR000.01-01-2098 Chlamydial disease in the Philippines"

Jakarta

1498 Work Units

- a. 3M161102BS10;AD281 "Infectious diseases and their vectors in Indonesia"
- b. 3M161102A870;AB124 "Immunological studies of infectious diseases of humans and production of human monoclonal antibodies for diagnosis, treatment and prevention"
- c. 3M161102A870;AQ123 "Development of rapid detection methods to identify the etiologic agent of diarrheal and febrile diseases in Indonesia"

Independent Research Work Units

- a. MR000.01.01-2101 "Correlation of histocompatibility antigen patterns with tropical disease states as a potential prognostic factor in disease risk assessment"
- b. MR000.01.01-2100 "Development of assays to determine the role of macrophages in the pathogenesis of cerebral malaria and severe typhoid fever"
- c. MR000.01.01-2102 "Use of recombinant DNA technology in protective vaccine studies for malaria in Indonesia"

HISTORY OF SAN LAZARO HOSPITAL

Founded as a dispensary in Intramuros by Fray Juan Clemente, 1577. Became a hospital, 1578. Taken over by the Hermandad dela Misericordia, 1596. Transferred to a new building at the premises of the Philippine Normal College, becoming the San Lazaro Hospital, 1631. Turned over to the Hermanos de San Juan de Dios, May 13, 1656. Building was demolished for the protection of the city against the invasion of Chinese pirates, 1662. Transferred to another building nearby, constructed by Fray Fernando dela Concepcion, 1675. Moved to a building in the present compound, 1784. Enlarged, 1785. Further improved by Fray Felix de Huerta who built a chapel and enclosed the premises with stone wall, 1859. Taken over by the Americans, 1898 and became a Contagious Disease Hospital.

Originally used for the treatment of lepers and venereal diseases, diarrhea, smallpox and bubonic plague victims at the turn of the 20th century. Burned in 1903, rebuilt in 1904 with wooden pavilions partly for an insane asylum.

Beautified, enlarged and new buildings constructed on March 5, 1921. With the transfer of the insane patient to the National Psychopathic Hospital in 1930, the building was occupied by lepers, admitted Prisoners of War sick of malaria and dysentery on January 2, 1942. In 1945, took care of hundreds of civilian war casualties. When peace and order was restored and lepers were moved to the Tala Leprosarium in 1949, the hospital resumed normal activities and confined to services to other communicable disease up to the present.

SAN LAZARO ADMINISTRATORS

1863	-	Fr. Felix Huertas
1894	-	Fr. Mariano Martinez
1898	-	Fr. Teodoro Fernandez Domingo Pacheco
1899	-	Panfilo Jorge Vicente Aguirre
1901	-	Adolf Schrage and Edward Halgreen
1902	-	Dr. C.F. De Mey
1903	-	Dr. J.M Bigger and Dr. H.S. Wilkinson
1906-1917	-	Dr. Almong Goff, Dr. R.L. Newborne, A.C. Gaston, Thomas W. Jackson and W.K. Betty
1918-1919	-	Dr. Florentino Ampil
1920	-	Dr. Andres Catanjal
1921-1948	-	Dr. Catalino Gavino
1948-1959	-	Dr. Felix Velasco
1960-1984	-	Dr. Cesar V. Uylangco
1984-present	-	Dr. Catherine P. Ranoa



